

U.S.S.N. 10/780,301

REMARKS

Thorough examination and careful review of the application by the Examiner is noted and appreciated.

Claims 8-14 are allowed.

By way of the foregoing amendments, Claims 2, 4, 7 - 10, 15, 17, 18, and 24 have been amended.

Claims 5, 6, 16, 22, and 23 have been cancelled.

Accordingly, upon entry of this Response, Claims 1-4, 7-15, 17-21, and 24 are pending.

The changes in the drawings, specification, and claims do not introduce new matter but clarify matters shown and described in the application as filed. The foregoing amendments and following remarks are believed to be fully responsive to the Office Action mailed October 12, 2006 and render all currently pending claims at issue patentably distinct over the references cited by the Examiner. The foregoing amendments are taken in the interest of expediting prosecution and there is no intention of surrendering any range of equivalents to which Applicant would otherwise be

U.S.S.N. 10/780,301

entitled in view of the prior art. Reconsideration and examination of this application is respectfully requested in light of the foregoing amendments and the following remarks.

EXAMINER'S OFFICE ACTION

In the October 12, 2006 Office Action referenced above, (hereinafter, "10-12-06 OA") the Examiner:

Allowed Claims 8-14;

Objected to the Claims because of informalities;

Rejected Claims 23 and 24 under 35 U.S.C. 112, first paragraph;

Rejected Claims 1-4, 15, and 17 under 35 USC § 102(b) as being anticipated by US Patent No. 6,122,584, issued in the name of Lin et al., hereinafter, "LIN".

Objections to the Claims because of Informalities

In objecting to the application because of informalities, the Examiner stated,

Claim 2 is objected to because of the following informalities: the phrase "natural frequencies" first recited in line 4 of claim 2 should be changed to -

U.S.S.N. 10/780,301

natural vibration frequencies—to be consistent with the language in claim 1. This change should be made throughout the claim listing. 10-12-06 OA, Pg.2, §1

Claims 2, 4, 8, 9, 10, 15, 17, 18, and 24 were amended to include the phrase "natural vibration frequencies", replacing the use of the phrase "natural frequencies" in those claims.

The amendments made to the Claims to correct the informalities render Examiner's objections to the Claims moot. Accordingly, the objections to the Claims because of informalities should respectfully be withdrawn.

Objections to the Claims

In the 10-12-06 OA, Examiner objected to Claims 18-22 "as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims."

It is unclear as to what Examiner meant, as Claim 18 is an independent Claim. Being an independent Claim

U.S.S.N. 10/780,301

eliminates the possibility of being dependent upon a rejected base claim.

However, Claim 18 was amended to incorporate the limitations of Claim 23, as discussed infra. See Claim Rejections under 35 U.S.C. 112, pg.13. Accordingly, Claim 23 has been canceled, and the dependency of Claim 24 was changed from Claim 23 to Claim 24.

Claim Rejections under 35 U.S.C. 112

The Examiner rejected Claims 23 and 24 under 35 U.S.C. 112, first paragraph.

Applicant respectfully traverses the rejections of claims 23 and 24 under 35 U.S.C. 112.

In rejecting Claims 23 and 24 under 35 U.S.C. 112, Examiner stated,

Claims 23 and 24 are rejected under 35 U.S.C. 112, first paragraph for failing to comply with the written description requirement..The originally filed specification fails to provide support for the

U.S.S.N. 10/780,301

limitation of measuring braking pulsing frequencies.

Paragraph [0029] of the published application suggests that the frequencies are inferred and not actually measured. Clarification is required. Claim 24 is rejected due to its dependency from claim 23.

Claim 23 has been canceled, and its limitations incorporated into independent Claim 18.

More particularly, Claim 18 has been amended to include the limitation of, "monitoring the response of the ABS to a series of braking events, wherein the monitoring step includes accumulating and recording brake pressures and brake pulsing frequencies;"

Support for the foregoing amendment to Claim 18 is found in ¶[0029] of Applicant's application, which states, "...the responses of the ABS system to a series of sudden braking events is accumulated and recorded. Brake pressure and wheels speed during sudden braking events are specifically monitored as part of the process of accumulating ABS responses."

U.S.S.N. 10/780,301

The dependency of Claim 24 has been changed from Claim 23 to independent Claim 18, as reflected in the currently amended Claim 24 found in the attached listing of Claims.

Thus, the rejection of Claims 23 and 24 under 35 USC 112, first paragraph has now been obviated. Accordingly, the rejection of claims 23 and 24 under 35 U.S.C. 112 should respectfully be withdrawn.

Claim Rejections Under 35 USC § 102

Claims 1-4, 15, and 17 are rejected under 35 USC § 102(b) as being anticipated by LIN.

The rejection of Claims 1-4, 15, and 17 under 35 USC § 102(b) based on LIN are respectfully traversed.

LIN is directed to a system of ABS application wherein the operation of the ABS of a vehicle is monitored and applied by a control system. The control system applies the ABS in order to help maintain the stability of the vehicle.

The ABS is applied to correct for undesirable yaw and lateral motion rates of the vehicle, when compared to the

U.S.S.N. 10/780,301

linear motion rate of the vehicle. The ABS is applied using data stored and indexed in a memory. The data is stored and indexed exclusively as a function of the vehicle's speed.

Claim 1 of the present invention discloses a method of controlling the ABS of a vehicle having a powertrain. Claim 1 was amended to include the limitations of Claims 5 and 6.

Examiner contends, "Lin et al. disclose in col. 20 lines 54-60 a method of controlling the ABS..."

4. The brake control method of claim 1, wherein the step of specifying the un-damped natural frequency comprises storing specified values of the un-damped natural frequency in a look-up table as a function of vehicle speed, and retrieving the stored values from said look-up table during operation of said vehicle as a function of the measured speed.

LIN, Col. 20, Lines 54-60

The above-cited portion of LIN, cited by Examiner, relates only to the storage or recordation of natural frequency data. This facet of LIN does not specify that

U.S.S.N. 10/780,301

the natural frequency data recorded and retained is directly related to either the ABS system of a vehicle, nor does it specify a direct relationship with the behavioral characteristics of the vehicle or its braking system in relation to the stored data.

Additionally, LIN teaches that each datum is to be stored and indexed specifically as a function of a particular vehicle speed. See *LIN, Col. 20, Lines 56-57* Retrieval and utilization of the data by the vehicle's control system is also a function of the vehicle speed. See *LIN, Col. 20, Lines 58-59* LIN does not teach, disclose, or suggest the use of any indexing or retrieval criteria for the data, other than that which operates as a function of the speed of the vehicle.

Applicant's application does not contain the limitation relating data storage and retrieval to functions of the vehicle speed. Instead, Applicant's application discloses a system that correlates the response of the ABS to the natural frequencies of the vehicle's powertrain. Advantageously, this allows the method of the Applicant's invention to access past ABS braking events independently of the vehicle's speed, as stated in ¶[0029] of Applicant's

U.S.S.N. 10/780,301

application, "various combinations of brake pressures and pulsing frequencies to avoid brake lock up and maximize braking effectiveness."

Applicant respectfully submits that the foregoing arguments and the accompanying amendments to the Claims places Claim 1 of Applicant's Application in a condition for allowance. Accordingly, Applicant also respectfully submits that Claims 2-4, which depend from Claim 1, are now also in condition for allowance, which allowance is earnestly solicited.

Claim 15 was amended to include the limitations of Claim 16, as well as the additional alternative responses of delaying the proposed ABS response, and altering the rate at which the brakes are pulsed, as stated in Claim 15, "...wherein the programmed instructions include instructions for accelerating the proposed ABS response, delaying the nominal ABS response for a selected period of time, or altering the rate at which the brakes are pulsed..""

In regards to Claim 15 of Applicant's application, Applicant respectfully submits that LIN does not anticipate Claim 15.

U.S.S.N. 10/780,301

LIN teaches, "...storing specified values of the undamped natural frequency in a look-up table as a function of vehicle speed, and retrieving the stored values from said look-up table during operation of said vehicle as a function of the measured speed." LIN, col. 20, Lines 56-60

LIN does not teach, suggest, or disclose storing the prior actuations of the ABS, nor the accompanying behaviors of the ABS in relation to the natural vibration frequencies of the vehicle, indexed independently of vehicle speed.

Claim 15 of Applicant's application discloses a "...computer memory having a stored set of ABS responses to past sudden braking events requiring actuation of the vehicle's ABS..." Applicant's Application, Claim 15

Claim 15 of Applicant's application is directed to the storage of past sudden braking events that have required the actuation of the ABS. This storage system of Applicant's application is not a function of vehicle speed, nor is the indexing or retrieval a function of vehicle speed.

U.S.S.N. 10/780,301

Applicant respectfully submits that the foregoing arguments and the accompanying amendments to the Claims places Claim 15 of Applicant's Application in a condition for allowance. Accordingly, Applicant also respectfully submits that Claim 17, which depends from Claim 15, is now also in condition for allowance, which allowance is earnestly solicited.

The Applicant therefore respectfully submits that LIN does not disclose, teach, or suggest the method of the present invention.

The Applicant has clearly shown that the basic steps, as recited in independent claims 1, 8, 15, and 18 of the present invention are patentably distinct from the LIN reference.

Clearly, the apparatus and methods disclosed in the LIN reference does not anticipate the claimed invention. Thus, the LIN reference fails to disclose, teach, or suggest the method of the present invention.

Based on the above, it is respectfully submitted that the amended claims 1, 15, and 18 are in condition for

U.S.S.N. 10/780,301

allowance, which allowance is earnestly solicited. With respect to the remaining rejected or objected to claims, all of which depend from one of claims 1, 15, and 18, the fact that they claim additional elements or limitations also renders them allowable over LIN, which allowance is earnestly solicited.

It is believed that the present invention as amended is novel over the reference relied upon by the Examiner.

The rejection of claims 23-24 under 35 USC § 112 first paragraph is respectfully traversed. The rejection of claims 1-4, 15, and 17 under 35 USC § 102(b) based on anticipation is respectfully traversed. A reconsideration for allowance of these claims is respectfully requested of the Examiner.

Based on the foregoing, the Applicant respectfully submits that all of the pending claims, i.e. claims 1-4, 7-15, 17-21, and 24 are now in condition for allowance. Such favorable action by the Examiner at an early date is respectfully solicited.

12-05-'06 12:11 FROM-TUNG & ASSOCIATES

12485404035

RECEIVED P21/21 U-364

CENTRAL FAX CENTER

U.S.S.N. 10/780,301

DEC 05 2006

In the event that the present invention is not in a condition for allowance for any other reasons, the Examiner is respectfully invited to call the Applicants' representative at his Bloomfield Hills, Michigan office at (248) 540-4040 such that necessary action may be taken to place the application in a condition for allowance.

Respectfully submitted,

Randy W. Tung
Reg. No. 31,311
Telephone: (248) 540-4040